Even though an Examiner is entitled to give claims presented their broadest reasonable interpretation [*IN RE CRISH*, ibid], an element/step positively recited in the claim(s) cannot disregarded.

Applicant's claim 1 recites a method for *displaying a magnetic field direction* with a magneto-optical cell having the steps of providing magnetic field having a particular direction and measuring light transmission properties of a magneto-optic cell located in the field in relation to *changes in the direction* of provided magnetic field.

Nagatsuma et al, on the other hand, describes a magneto-optic cell that measures magnitude of a magnetic field, i.e., the scalar quantities of magnetic field strength or intensity, rather than *displaying direction* of sensed magnetic fields. (See also U.S. Patent No. 4,896,103, *Shimanuki et al*)[2]. In fact, contrary to the Examiner's assertion, nowhere in *Nagatsuma et al* or in *Shimanuki et al* is there any teaching or mention of *changes in the direction* of the provided magnetic field, nor any teachings or mention that the magnetic anisotropy properties of the involved magneto-optic compositions could be utilized to sense/measure, much less *display, magnetic field direction.*

Nor do *Nagatsuma et al* or *Shimanuki et al* describe, teach or suggest a magneto-optic cell having a light reflecting cell wall (Applicant's claim 4).

Notwithstanding, while neither *Nagatsuma et al* nor *Shimanuki et al* can be properly cited as anticipating the limitations expressed in Applicant's original claims 1-5 & 7 under 35 U.S.C. § 102 because of differences, such differences could properly to be taken into account to determine patentability of claimed subject matter under the obviousness criteria expressed at 35 U.S.C. § 103 [See *Titanium Metals Corp. of America v. Banner*, (Fed. Cir. 1985) 778 F.2d 775, 780, 227 U.S.P.Q. 773.]

Rejections pursuant 35 U.S.C. §103:

The Applicant notes that in articulating rejections of claims under 35 U.S.C. § 103, Examiner Allen did not made a key preliminary legal inquiry **before** including a reference per the "content" inquiry specified in *Graham v. John Deere Co.* 383 U.S.1, 17-18 [86 S.Ct. 684, 693-94, 15 L.Ed.2d 545, 556-57], 148 USPQ 459, 467 (1966)[3]. In particular, **it must be known whether a patent or publication is in the prior art under 35 U.S.C. § 102** before it can be cited as a reference for ascertaining obviousness under 35 U.S.C. § 103. *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1568 (Fed. Cir. 1987 (emphasis added).

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[2] *Shimanuki et al* describes current measuring magnetic field sensors of the type improved by *Nagatsuma et al.*

[3] Cited by Examiner Allen in the Office Action.

In addition to *Nagatsuma et al* (a proper 35 U.S.C. § 102 prior art reference) Examiner Allen cites U.S. Patent Application Publication No. US 2003/0090012, *Allen et al* filed September 27, 2001 and published on May 15, 2003. The *Allen* Patent Application Publication is **not a prior art reference under 35 U.S.C. § 102** to Applicant's present divisional application.

In particular, Applicant's present application **filed September 29, 2003**, stems from an election/restriction requirement made by the Patent Office pursuant 35 U.S.C. §121 in his then co-pending U.S. Patent Application Serial No. 09/927,736 **filed August 10, 2001**, that issued **November 18, 2003** as U.S. Patent No. 6,647,771 B2 entitled 'EXTERNAL PRESSURE DISPLAY FOR VEHICLE TIRES.'

35 U.S.C. § 121 provides a non-elected invention that is made the subject of a divisional application in compliance with the requirements of 35 U.S.C. §120 is entitled to the benefit of the filing date of the original application. 35 U.S.C. §120 only requires that the subsequent application: (i) be filed before the patenting or abandonment of or termination of proceedings on the first application or on an application similarly entitled to the benefit of the filing date of the first application; and (ii) contain or is amended to contain a specific reference to the earlier filed application.

In his prior co-pending SN09/927,736 application, Applicant responded to Examiner Allen's restriction demand, stating:

> "Responding to the restriction requirement requested by Examiner Allen, the Applicant elects the invention classified in Category I for examination, namely Claim Nos. 1 – 10 and 21 - 27 respectively drawn to 'A method for' and 'An apparatus' for displaying magnitude."

The claims of Applicant's current application are the Category II group characterized by Examiner Allen in the prior co-pending SN09/927,736 application as being *"Claims 11 and 12-20 drawn to a method for displaying magnitude direction, classified in class 359, subclass 489"*.

In particular:

1. The subject matter of original SN09/927,736 independent claim 12 is presented in current independent claim 1 and dependant claims 1-7;
2. The subject matter of original SN09/927,736 dependent claim 13-12 is presented in current dependant claim 8;
3. The subject matter of original SN09/927,736 dependent claim 14-12 is presented in current dependant claim 9;
4. The subject matter of original SN09/927,736 dependent claim 15-12 is presented in current dependant claim 10;

5. The subject matter of original SN09/927,736 dependent claim 16-12 is presented in current dependant claim 11;
6. The subject matter of original dependent claim 17-12 was presented in canceled claim 12 currently rewritten as new independent claim 18;
7. The subject matter of original SN09/927,736 dependent claim 18-12 was presented in canceled claim 13 currently rewritten as new independent claim 19;
8. The subject matter of original SN09/927,736 dependent claim 19-12 is presented in current dependant claims 14 & 16;
9. The subject matter of original SN09/927,736 dependent claim 20-19-12 is presented in current dependant claims 15 & 17.

35 U.S.C. § 112, 2nd ¶ requires a patent application specification to conclude with claims particularly pointing out and distinctly claiming the subject matter that is regarded as the applicant's invention. Accordingly, it is clear that Applicant's current application is a division application drawn to the subject a of one of the other inventions subject to the restriction/election requirements of the Commissioner in Applicant's prior co-pending SN09/927,736 application meeting the subject matter requirements of 35 U.S.C. §121.

Further, the original CROSS REFERENCES TO RELATED APPLICATIONS section of Applicant's current application unambiguously states, "This Application is a division of Ser. No. 09/927,736 filed August 10, 2001."[4], and was filed on September 9, 2003 before the patenting of prior co-pending SN09/927,736 application on **November 18, 2003** satisfying the requirements of 35 U.S.C. §120. Accordingly under 35 U.S.C. § 121 Applicant's current application has the benefit of an **August 10, 2001** filing date.

Under 35 USC § 102(b) for an application of another, published under section 122(b) to be *prior art* to a current patent application, **it must have been published** more than 1 year prior to the applicable filing date of the patent application.

Under 35 U.S.C. § 102(e) for a patent application of another published under section 122(b) to be consider *prior art*, to Applicant's current patent application, (1) **it must have been published** before the invention made by the Applicant, or (2) **it must have been filed** in the U.S. before the invention made by the Applicant and **patented.**

[4] The CROSS-REFERENCES TO RELATED APPLICATIONS section is currently amended to more accurately recite all related applications and consequent patents.

U.S. Patent Application Publication No. US 2003/0090012, *Allen et al* was not filed or published before **August 10. 2001** and no patent has yet been granted on it, therefore it clearly cannot be *prior art* to Applicant's present divisional patent application. Accordingly, Applicant respectfully requests Examiner Allen to withdraw U.S. Patent Application Publication No. US 2003/0090012, *Allen et al* as a reference bearing on the patentability of Applicant's current application under 35 U.S.C. § 103.

AMENDMENTS TO PATENT APPLICATION:

Without ceding patentability of the originally claimed subject matter in light of the prior art references cited by the Examiner, the Applicant requests his application be amended as follows:

IN THE SPECIFICATION:

Please amend the paragraph at Page 1, line 10 following section heading **CROSS-REFERENCES TO RELATED APPLICATIONS**, to read as follows:

"This application is a division of U.S. Patent Application Ser. No. 09/927,736 filed August 10, 2001, now U.S. Patent No. 6,647,771 B2 issued November 18, 2003 entitled 'EXTERNAL PRESSURE DISPLAY FOR VEHICLE TIRES', and a continuation of the original parent U.S. Provisional Patent Application Serial No. 60/228,941 filed August 30, 2000." Accordingly, all benefits, including, but not limited to priority and filing dates that may accrue to this application pursuant 35 U.S.C. §§ 119, 120, & 121 are claimed."

Please amend the paragraph beginning at page 9, line 29 through page 10, line 15 of the Specification, to read as follows:

Marked-up amendment of specification paragraph at page 9, line 29 thru page 10, line 15:

In the display system shown in Fig. 3, incident light 70 is linearly polarized by first layer 56 and passes into liquid crystal layer [~~62~~] 58. The orientation of the linear polarization of the light entering liquid crystal layer [~~62~~] 58 is rotated by the helical twist of the [~~director of~~] liquid crystal director 64. The helical twist is produced by torque resulting from anchoring director 66A to the inner surface of layer 56 and the forces produced by external magnetic field 76 on the liquid crystal layer 58 [~~64~~]. Director 66B at the inner surface of layer 60 is weakly anchored to layer 60 so that most of the span of liquid crystal layer [~~64~~] 58 readily aligns with magnetic field 76. Note that the twist of the [~~director of~~] liquid crystal director 64 need not be uniform across the span of layer [~~62~~] 58. The pixels 68 comprising second polarizing layer 60 selectively attenuate the polarized light passed by liquid crystal layer [~~62~~] 58 in accordance with the degree of helical twist and the particular linear polarization orientation of the individual pixels 68. [~~Light passing through second polarizing layer 60 is reflected by layer 62 back through second polarizing layer 60, where it is further attenuated.~~] Light transmitted by the second polarizing layer 60 is then reflected back through that polarizing layer by reflecting layer 62 and is further attenuated. Reflected light emanating from second polarization layer 60 is transmitted back through liquid crystal layer 58 and first polarizing layer 56 to an observer. Thus pixel 68 may appear bright or dark based upon the orientation of magnetic field 76.

Clean amended specification paragraph at page 9 line 29 thru page 10, line 15:

In the display system shown in Fig. 3, incident light 70 is linearly polarized by first layer 56 and passes into liquid crystal layer 58. The orientation of the linear polarization of the light entering liquid crystal layer 58 is rotated by the helical twist of the liquid crystal director 64. The helical twist is produced by torque resulting from anchoring director 66A to the inner surface of layer 56 and the forces produced by external magnetic field 76 on the liquid crystal layer 58. Director 66B at the inner surface of layer 60 is weakly anchored to layer 60 so that most of the span of liquid crystal 58 readily aligns with magnetic field

76. Note that the twist of the liquid crystal director 64 need not be uniform across the span of layer 58. The pixels 68 comprising second polarizing layer 60 selectively attenuate the polarized light passed by liquid crystal layer 58 in accordance with the degree of helical twist and the particular linear polarization orientation of the individual pixels 68. Light transmitted by the second polarizing layer 60 is reflected back through polarizing layer 60 and is further attenuated. Reflected light emanating from second polarization layer 60 is transmitted back through liquid crystal layer 58 and first polarizing layer 56 to an observer. Thus pixel 68 may appear bright or dark based upon the orientation of magnetic field 76.

REMARKS

This CORRECTED RESPONSE TO OFFICE ACTION globally corrects a global typographic error transposing numbers in Application Serial numbers of the parent U.S Patent Application appearing in the Response to Office Action mailed October 2, 2005 received by the PTO on October 12, 2005.

Please substitute this CORRECTED RESPONSE TO OFFICE ACTION in place and stead of the prior Response to Office Action.

As before stated, Applicant amends the CROSS REFERENCES TO RELATED APPLICATIONS section paragraph to definitely reflect its relationship to original U.S. Patent Application Ser. No. 09/927,736 filed August 10, 2001, now U.S. Patent No. 6,647,771 B2 granted November 18, 2003 entitled 'EXTERNAL PRESSURE DISPLAY FOR VEHICLE TIRES', and the original parent U.S. Provisional Patent Application Serial No. 60/228,941 filed August 30, 2000." As pointed out, in the preliminary remarks, Applicant's current application is entitled to the benefit of at least the August 10, 2001filing date of his prior SN09/927,736 application.

The Applicant also amends specification paragraph at page 9, line 29 thru page 10, line 15 correcting figure reference number errors and rewriting a clumsy sentence.

In the claims the Applicant currently: (i) amends Claim 2 to properly recite a limitation previously without an antecedent basis; (ii) cancels dependent Claims 12 and 13 presenting the subject matter thereof respectively, in new independent claims 18 & 19 each of which that incorporate the limitations of independent claim 1 and dependant claim 7 for overcoming the objections of Examiner Allen to patentability of the inventions so claimed; (iii) amends dependent claims 14 and 16 to more clearly recite particular limitations for providing a visual display of magnetic field direction; and (iv) amends dependent claims 15 and 17 to correct grammar errors and to eliminate an unnecessary definite article.

An Information Disclosure Statement by Applicant [PTO/SB/08A (07-05)] citing U.S. Patent No. 4,896,103, *Shimanuki et al* issued 01/23/1990 mentioned in the Preliminary Remarks is submitted herewith.

As pointed out in the Preliminary Remarks, neither *Nagatsuma et al* nor in *Shimanuki et al* disclose or suggest a sensor for displaying magnetic field direction. In fact, beginning at Col. 4, line 8 *Nagatsuma et al* recites that :

> "The magnetic field measuring apparatus comprises a light source A, a magnetic field detector B, a measuring unit C and a light transmission unit D. The light source includes a light emitting diode 1 (wavelength 0.83 82 m). The magnetic field detector includes rod lenses 2-1 and 2-2, a polarizer 3, four magnetic films 4 and an analyzer 5. In the measuring unit, a light is received by a photo-diode 6 and a DC component and

an AC component (signal component) are detected by a DC component detector 7 and an AC component detector 8, and a ratio of those components are calculated by a calculating circuit 9. The light transmission unit includes a multimode optical fiber having a core diameter of about 400 μm."

As explained in *Shimanuki et al* beginning at col. 7, line 40:

> With a magnetic field sensor of this kind, since the easy axis of magnetization of the magneto-optic element (Faraday element) is at right angles to the direction of the magnetic field to be measured, the magnetization component in the direction of the magnetic field to be measured is produced by a mechanism of the magnetic rotation magnetic and this magnetization component changes linearly in proportion to the size of the magnetic field to be measured, right up to high magnetic fields. (Emphasis added)

Nor do the above references describe a mechanism for, or even an appreciation of the possibility of measuring light transmission through the described sensors as a function of changes in direction of the supplied magnetic field. Nor does either reference discuss, or suggest that changes in direction of a supplied magnetic field could be sensed or measured with sensors having a *"Faraday"* magneto-optic element.

As currently amended, claims 1-5 and 7 each recite a method for displaying magnetic field direction that includes, as an express limitation/step, measurement of light transmission through the magneto-optic cell in relation to changes in magnetic field direction, not magnitude. Dependent claim 4 in addition, recites a reflecting cell wall, not described as an element functionally or otherwise in either reference. Accordingly, the Applicant respectfully submits that neither *Nagatsuma et al* nor in *Shimanuki et al* anticipate the Applicant's invention as claimed in claims 1-5 & 7 pursuant 35 U.S.C. § 102. [See *Paeco, Inc. v. Applied Moldings, Inc.*, C.A.3 (Pa.) 1977, 562 F.2d 870, 194 U.S.P.Q. 353.]

Also, as pointed out in the Preliminary Remarks, U.S. Patent Application Publication No. US 2003/0090012, *Allen et al* filed September 27, 2001 and published on May 15, 2003 is not a prior art reference that can be used to negate patentability of the inventions claimed in Applicant's current application under the obviousness criteria of 35 U.S.C. § 103 because the current application is entitled to the benefit of the August 10, 2001 filing date of Applicants original SN09/927,736 application as a divisional application [See 35 U.S.C. §121]. Accordingly the Applicant respectfully submits currently amended claims 6, and 8-11 satisfy the criteria for patentability under 35 U.S.C. § 103.

New independent Claims 18 and 19 recite the limitations expressed in original independent claims 1, dependent claim 7 and canceled dependent claims 12 and 13, respectively, overcoming the Examiner's objections to patentability in view of the references cited.

Finally, the Applicant respectfully submits currently amended dependent claims 14 -17, are in a condition to be allowed as they incorporate limitations of independent claim 1 and amended dependent claim 2 that, for the reasons stated above, meet the condition for patentability over the cited references.

CONCLUSION

As currently amended presenting claims 1-11 and 14-19 this application meets the criteria for paten ability under 35 U.S.C. §§ 102 & 103. Accordingly, a Notice of Allowance is respectfully solicited.

I hereby certify that Response to Office Action ~~together with the identified enclosures~~ are being Transmitted via facsimile to 703-872-9306 deposited in ~~San Mateo, Ca, postage prepaid, with the US. Postal Service FIRST CLASS MAIL in an envelope addressed to : Mail Stop Amendment~~ Commissioner of Patents P.O. Box 1450 Alexandria VA 22313-1450 on October 17, 2005before 5:00 PM PDT Attention Examiner Andre J. Allen.

Dated: October 17, 2005

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Attorney for Applicant.

5